IN THE CLAIMS:

1. (currently amended): An outermost surface covering not less than 55% of stainless steel said surface having a resistance to coke formation when the stainless steel is exposed to a hydrocarbon environment at high temperatures and having a thickness from 0.1 to [[~~15~~]] 10 microns and substantially comprising a spinel of the formula ~~$Mn_xCr_{3-x}O_4$ wherein x is from 0.5 to 2~~ $MnCr_2O_4$.

2. (original): The surface according to claim 1, wherein the stainless steel comprises from 13 to 50 weight % of Cr and 0.2 to 3.0 weight % Mn.

3. (original): The surface according to claim 2, wherein the stainless steel comprises from 20 to 38 weight % of Cr and 0.5 to 2.0 weight % Mn.

4. (original): The surface according to claim 3, wherein the stainless steel further comprises from 20 to 50 weight % of Ni, from 0.3 to 2.0 weight % of Si and less than 5 weight % of titanium, niobium and all other trace metals, and carbon in an amount less than 0.75 weight %.

5. (original): The surface according to claim 4, covering not less than 60% of the stainless steel.

6. (original): The surface according to claim 4, covering not less than 80% of the stainless steel.

7. (original): The surface according to claim 4, covering not less than 95% of the stainless steel.

8. (cancelled)

9. (cancelled)

10. (cancelled)

11. (currently amended): A stainless steel pipe or tube having an inner surface according to claim [[~~8~~]] 5.

12. (currently amended): A stainless steel pipe or tube having an inner surface according to claim[[~~9~~]] 6.

13. (currently amended): A stainless steel pipe or tube having an inner surface according to claim [[~~10~~]] 7.

14. (currently amended): A stainless steel reactor having an inner surface according to claim[[~~8~~]] 5.

15. (currently amended): A stainless steel reactor having an inner surface according to claim [[~~9~~]] 6.

16. (currently amended): A stainless steel reactor having an inner surface according to claim [[~~10~~]] 7.

17. (currently amended): A stainless steel heat exchange having an inner surface according to claim [[~~8~~]] 5.

18. (currently amended): A stainless steel heat exchange having an inner surface according to claim [[~~9~~]] 6.

19. (currently amended): A stainless steel heat exchange having an inner surface according to claim [[~~10~~]] 7.

20. (currently amended): A heat exchange having a cooling surface comprising stainless steel according to claim [[~~8~~]] 5.

21. (currently amended): A heat exchange having a cooling surface comprising stainless steel according to claim [[~~9~~]] 6.

22. (currently amended): A heat exchange having a cooling surface comprising stainless steel according to claim [[~~10~~]] 7.

23. (withdrawn): A process for the thermal cracking of a hydrocarbon comprising passing said hydrocarbon at elevated temperatures through stainless steel tubes, pipes, or coils according to claim 11.

24. (withdrawn): A process for the thermal cracking of a hydrocarbon comprising passing said hydrocarbon at elevated temperatures through stainless steel tubes, pipes, or coils according to claim 12.

25. (withdrawn): A process for the thermal cracking of a hydrocarbon comprising passing said hydrocarbon at elevated temperatures through stainless steel tubes, pipes, or coils according to claim 13.

26. (withdrawn): A process for altering the enthalpy of a fluid comprising passing the fluid through a heat exchanger according to claim 17.

27. (withdrawn): A process for altering the enthalpy of a fluid comprising passing the fluid through a heat exchanger according to claim 18.

28. (withdrawn): A process for altering the enthalpy of a fluid comprising passing the fluid through a heat exchanger according to claim 19.

29. (withdrawn): A process for altering the enthalpy of a fluid comprising passing the fluid through a heat exchanger according to claim 20.

30. (withdrawn): A process for altering the enthalpy of a fluid comprising passing the fluid over a heat exchanger according to claim 21.

31. (withdrawn): A process for altering the enthalpy of a fluid comprising passing the fluid over a heat exchanger according to claim 22.